Supplement to the Bulletin of The Institute of Physics, July, 1958

Physics Courses in Colleges of Technology

This supplement contains announcements of physics courses and special lectures that will be available during the coming session in some of the principal Colleges of Technology. It is hoped that this will be of use to students, to young graduates wishing to know of postgraduate lectures and to senior members of the Institute concerned with the training of assistants.

BOROUGH POLYTECHNIC

BOROUGH ROAD, S.E.1

Special Postgraduate Courses in Applied Physics

Session 1958/59

Lecture Courses, by specialist lecturers, will be held weekly in the evening (also in the afternoon, where asterisked)

Title	*No. of Lectures*	*Commencing date*
Electronics at Low Temperatures - - -	12	3rd October
***Nuclear Power** - - - - - - - -	24	9th October
Nucleonic Circuitry (Electronic Equipment used in Nuclear Physics) - - - -	9	8th October
Nuclear Particle Techniques (Nuclear Instruments and isotope applications) - - - -	15	14th January
Reactor Instrumentation and Control - -	6	30th April
***Principles and Applications of Transistors** -	20	7th October
***Principles of Pulse Techniques** - - -	22	29th September

Laboratory Courses will also be held weekly in the following subjects :—

Nucleonic Techniques and Measurements

(An eight-week full-time course is also available in this subject)

Transistor Measurements and Applications

Pulse Circuits and Techniques

Leaflets giving full particulars of these and of other postgraduate courses can be obtained from the Secretary, Borough Polytechnic, Borough Road, London, S.E.1.

BOROUGH POLYTECHNIC

BOROUGH ROAD, S.E.1

The following undergraduate courses in Physics are available :—

Sandwich Course (four years)
leading to the
DIPLOMA IN TECHNOLOGY IN APPLIED PHYSICS
(*with specialization in Applied Nuclear Physics*)

Part-time (Day or Evening) Courses
in preparation for the examinations of
THE INSTITUTE OF PHYSICS

Part-time (Day or Evening) Courses
in preparation for the
SCIENCE DEGREES
(*External*)
of the University of London

For Prospectus of (*a*) Full-time and Sandwich courses or (*b*) Part-time courses, apply to the Secretary, Borough Polytechnic, Borough Road, London, S.E.1.

Paisley Technical College

The following day courses will be provided in the coming session for :—

B.Sc. degree (external) of London University
in General Science and Special Physics

Graduateship Membership of The Institute of Physics

Ordinary and Higher National Certificate on a day-release basis

Special evening courses will be offered in the following subjects :

Nuclear Physics

Instrumentation and Controls

Pulse techniques and transistors

Statistics

Numerical methods in Mathematics

Northampton College of Advanced Technology, London

Session 1958-59

Applied Physics Sandwich Course for the Diploma in Technology

This course was started in January, 1956, the award being a College Diploma recognized by The Institute of Physics as carrying exemption from the Graduateship examination. It has now been approved for the Diploma in Technology.

The Scheme is a co-operative enterprise to which the College and the Industrial Organization contribute equally. It provides a training in theoretical and experimental physics, with particular emphasis on the application of physics in industry.

The duration of the course is four years ; in each year the student spends an average of six months in full-time study at the College and the remainder in practical training with his employer. The College appoints a tutor to the students of each firm. In addition to supervising their progress while in College, the tutor visits the students during their industrial periods and acts as a liaison officer with the firm.

The technical subjects in the course consist of Physics, Applied Physics and Mathematics, together with ancillary subjects. In the Applied Physics of the final year the student selects two subjects in which to specialize ; he also undertakes a project related to his particular field of study. In addition, a proportion of the time is spent in non-technical studies.

All students become members of the Students' Union Society and are expected to share in its activities, which include a recently-formed Physical Society.

In view of the increasing support from industry and to assist some industrial training programmes, it has been decided to arrange two courses each year. The First Year courses starting in 1958-59 will be as follows :—

(1) Monday, September 8, 1958, to Friday, February 20, 1959
(2) Monday, February 16, 1959, to Friday, July 31, 1959

Part-time Postgraduate Courses

The following courses will be conducted during the session :—

SEMI CONDUCTORS : PHYSICS AND TECHNOLOGY OF MATERIALS AND DEVICES
AN INTRODUCTION TO NUCLEAR POWER
OPTICAL INSTRUMENTS
PHOTO-ELASTICITY
APPLIED ACOUSTICS
HIGH VACUUM TECHNIQUE

Further details of the above courses may be obtained from the Head of the Applied Physics Department, Northampton College, St. John Street, London, E.C.1.

Northern Polytechnic

Holloway, N.7. NORth 1686

Department of Physics

Session 1958-59

Degree Courses in Physics for Internal Degrees of The University of London

Full-time and Part-time Courses leading to

B.Sc. Special Physics
B.Sc. General
M.Sc. by examination
Research leading to Ph.D., and M.Sc.

Advanced Part-time Courses in

Electronics and Microwave Physics
Electrical Discharges in Gases
Solid State Physics

Students with suitable degrees in Physics, following one of these courses, accompanied by practical work, can proceed to the M.Sc. degree of the University of London.

The lectures are not confined to such students, but are open to any working in appropriate fields.

Courses in Applied Physics

Diploma Course in the Physics and Technology of Electronics

Sandwich Course leading to the Diploma in Technology (Dip. Tech.)
and
Graduateship of The Institute of Physics (Grad.Inst.P.)

Part-time Course leading to Graduateship of The Institute of Physics

National Certificates in Applied Physics

Ordinary National Certificate. Course available to students of 16 and over.

Higher National Certificate. Course available to students with O.N.C., or with suitable passes in G.C.E.

Students taking the H.N.C. Course at the Northern Polytechnic can proceed to complete the College Diploma Course and qualify in this way for Grad.Inst.P.

Inquiries should be addressed to The Head of the Department of Physics.

NORTH STAFFORDSHIRE TECHNICAL COLLEGE

STOKE-ON-TRENT

Postgraduate Courses in Applied Physics

1. **Autumn 1958—Nuclear Science Course B —Nuclear Reactors**

   This course follows on from the Introductory Course A which was given in session 1957-58. It is designed for physicists, engineers, chemists and metallurgists who wish to acquire knowledge of the principles of operation of nuclear power reactors.

   Lecturer : Dr. A. G. Peace, F.Inst.P.

   Duration of course : About ten weeks, two hours per week.

   Fee : One guinea.

2. **January, 1959—Applications of Physical Methods to Chemical Analysis**

   Principles and applications of such physical techniques as infra-red absorption, Raman spectra, emission spectrography, X-ray diffraction, X-ray fluorescence analysis, flame photometry, microwave spectroscopy, nuclear magnetic resonance, etc. Suitable for graduates and holders of Higher National Certificates and similar qualifications.

   Lecturer : Mr. D. S. Dodd, M.A., A.Inst.P.

   Duration of course : About ten weeks, two hours per week.

   Fee : One guinea.

3. **Spring, 1959—Electronics : Some Industrial Applications**

   Following a number of introductory lectures, which students will be given the option of omitting, a wide review of industrial applications will be given. The aim of the course will be to foster an intelligent interest in, and appreciation of the usefulness of, electronics to industry. The course will be suitable for engineers, chemists and physicists in managerial and supervisory positions and others.

   Lecturer : Mr. D. A. Calder, B.Sc., A.Inst.P.

   Duration of course : Three weeks introductory, followed by about seven weeks, two hours per week.

   Fee : One guinea.

Regular Courses in Applied Physics

The department provides instruction in Physics at Higher National Certificate and degree level to students of the departments of Engineering, Ceramics, Chemistry and Mining. It also provides courses for Ordinary and Higher National Certificates in Applied Physics.

Full details of the above and other courses offered may be obtained from the Head of the Department.

MIDDLESEX COUNTY COUNCIL
EDUCATION COMMITTEE

Brunel College of Technology
Woodlands Avenue, Acton, W.3

DEPARTMENT OF MATHEMATICS

Evening Lectures for the Session 1958-59

Methods in Science
by
Professor H. Levy, M.A., D.Sc., F.R.S.E.

Theory of Queueing and Industrial Applications
by F. Gordon Foster, Ph.D.
followed by a panel of experts from industry

Linear Programming
by S. Vajda, D.Phil.
followed by a panel of experts from industry

Modern Computing Methods
by A. R. Curtis, M.A., E. T. Goodwin, M.A., Ph.D., J. H. Wilkinson, M.A.

Programming Pegasus
by G. E. Felton, M.A.

Logical Design of Pegasus
by C. H. Devonald, B.A.

Applied Statistics and Design of Experiment
by M. L. R. Pettersson, M.A., Ph.D., F.L.S., M.I.Biol.

Complex Variable, Laplace Transformation and Control Systems
by H. Goldenberg, M.Sc.

Numerical Analysis
by M. H. Horsman, B.Sc.

Vector Analysis
by G. D. Smith, M.Sc.

Differential Equations
by G. D. Smith, M.Sc.

A.3 Mathematics for Mechanical Engineers
by E. E. Robinson, M.Sc.

Further details may be obtained from the Head of the Mathematics Department.

C. E. GURR, M.Sc., Ph.D.,
Clerk to the Governing Body.

BATTERSEA COLLEGE OF TECHNOLOGY

PHYSICS DEPARTMENT

Applications are invited for enrolment for the courses in

Microwave Physics
beginning on September 29, 1958.

Suitably qualified students may proceed to the M.Sc. degree of the University of London or the Postgraduate Diploma of the College.

For further details apply Head of Department.

THE POLYTECHNIC
309 Regent Street, W.1

DEPARTMENT OF MATHEMATICS AND PHYSICS

Full-time and part-time day courses are available for B.Sc. General in Pure Mathematics, Physics and Chemistry (Part I), Physics and Mathematics or Chemistry (Part II), B.Sc. Special in Physics and Grad.Inst.P.

Evening courses are offered in B.Sc. General, M.Sc. (Maths), Statistics, Electronics, Techniques of Mathematical Physics and Postgraduate Mathematics.

Prospectuses may be obtained from the Director of Education.

SIR JOHN CASS COLLEGE
Jewry Street, Aldgate, E.C.3

The College provides Full-time and Part-time (Day Release) Courses for the Internal Special Degree in Physics and the new B.Sc. (General) Degree of the University of London.

There are also courses for the Graduateship Examination of the Institute and special courses of lectures on various topics including Meteorology and Quantum Mechanics.

Research work for a higher degree in Physics may also be undertaken, full-time or part-time.

Prospectus, application forms and details of special courses may be obtained from the Secretary.

Middlesex County Council Education Committee

BRUNEL COLLEGE OF TECHNOLOGY

Woodlands Avenue, Acton, W.3

Principal : J. Topping, M.Sc., Ph.D., D.I.C., F.Inst.P.

DEPARTMENT OF PHYSICS

Head of Department : C. A. Hogarth, B.Sc., Ph.D., F.Inst.P.

The following courses are among those to be held in the department during the session 1958-59. Autumn term begins September 22, 1958.

Diploma in Technology in Applied Physics

A four-year Sandwich course commencing in January, 1959. Specialist subjects in the course include Nuclear Technology, X-ray Crystallography, Electronics, High Vacuum Technology, Electrical and Magnetic Properties of Solids.

B.Sc. (General) Degree of the University of London

The next part-time course begins in September, 1958, and extends over four years.

Higher National Certificate in Applied Physics

Subjects include Electronics, High Vacuum Technology, Illumination, Applied Acoustics. New course begins in September, 1958, and is held on a day-release basis.

Graduateship of The Institute of Physics

A day-release course for holders of the Higher National Certificate in Applied Physics commencing in September, 1958, and extending over two years.

Evening courses to postgraduate standard are offered in the following subjects : Dislocations in solids, Biological effects of nuclear and allied radiations, Ultrasonics, X-ray Crystallography, Physics of nuclear engineering, An introduction to the Physics of Transistors.

Full details of courses and enrolment forms obtainable from the Principal or Head of Department (ACOrn 6661).

C. E. Gurr, M.Sc., Ph.D., *Clerk to the Governing Body.*

LEICESTER COLLEGE OF TECHNOLOGY AND COMMERCE

School of Physics and Applied Science

Day Release Courses :—

Ordinary and Higher National Certificates in Applied Physics B.Sc. (General)

Electronic and Telecommunications Engineering

Postgraduate Courses

Microwave Techniques

Colour Science

WEST HAM COLLEGE OF TECHNOLOGY

Romford Road, West Ham, E.15.

Principal : E. A. Rudge, M.Sc., Ph.D., F.R.I.C., A.M.I.Chem.E.

For particulars of :

Full-time and Part-time Courses in Physics and Electrical Engineering leading to the Internal B.Sc. and B.Sc. (Eng.) London, and of Diploma and Certificate Courses in Pure and Applied Physics (including Electronics) ; apply to the Principal.

Excellent facilities are available for research leading to higher Degrees.

WELSH COLLEGE OF ADVANCED TECHNOLOGY

CATHAYS PARK, CARDIFF

Principal : A. HARVEY, Ph.D., B.Sc., F.Inst.P.

Diploma in Technology in Applied Physics

A four year Sandwich course in Applied Physics leading to the Diploma in Technology (Dip. Tech.) will commence in October, 1958.

This Diploma will be a qualification satisfying completely the academic requirements for Graduateship and corporate membership of The Institute of Physics.

Students may be "works" or "College" based, and will spend alternate six-monthly periods in College and Industry.

Normal requirements for admission to the course will be success at G.C.E. "A" level, or O.N.C., at a high standard, in Applied Physics or Electrical Engineering.

Details of the course may be obtained from, and applications should be made to, the Principal.

R. E. PRESSWOOD, *Clerk to the Governors.*

County Borough of Brighton Education Committee

BRIGHTON TECHNICAL COLLEGE

Principal : G. E. WATTS, M.A., Ph.D.(Cantab.), B.Sc.(Lond.), F.R.I.C.

Head of Physics Department: N. PENTLAND, M.Sc., Ph.D.(Lond.), F.Inst.P.

Enquiries are invited from prospective students, or employers of prospective students, in connection with the following courses which will be in operation during the session 1958/59 :

(*a*) **4-year Sandwich Diploma Course in Applied Physics**—College sessions of the course commence in January each year

(*b*) **3-year Full-time Diploma Course in Applied Physics**—September entry.

(*c*) **Ordinary and Higher National Certificate Courses in Applied Physics,** including Conversion Year between G.C.E. Advanced Level and Higher National Certificate.

(*d*) **A course of ten evening lectures in Solid State Physics** to be given by specialists from industry in the Spring Term, 1959.

Further details and enrolment forms from the Head of the Physics Department, Brighton Technical College, Brighton 7.

W. G. STONE, M.A.,
Director of Education.

Sunderland Education Committee

SUNDERLAND TECHNICAL COLLEGE

Session 1958-59

Courses in Pure and Applied Physics

1. **Diploma in Technology—Applied Physics**

   A four year "sandwich" course in Applied Physics for the Diploma in Technology will commence in October, 1958. The course will provide a balanced training for the industrial physicist and give exemption from the academic requirements of The Institute of Physics for Graduateship and corporate membership.

2. **B.Sc. Pure Science**

   A three year full-time course for the external B.Sc. General Degree of London University is offered in the subjects of Physics, Chemistry, Mathematics and Botany.

3. **Higher National Certificate in Applied Physics**

   Part-time day and evening courses are provided for the Higher National Certificate in Applied Physics.

4. **Graduateship of The Institute of Physics**

   Part-time classes are provided for holders of

   (*a*) a Higher National Certificate in Applied Physics, and

   (*b*) a pass B.Sc. in the subjects Physics, Mathematics, More Advanced Physics and Electronics to enable them to qualify for Graduate membership of the Institute.

5. **Short Courses**

   (*a*) Nuclear Power and Ship Propulsion. A short course of eight lectures will commence on Monday, October 13, 1958.

   (*b*) Heat Transfer. A short course of eight lectures will commence on Monday, January 12, 1959.

Further details of these courses may be obtained from the Registrar, Technical College, Sunderland.

W. THOMPSON,
Director of Education.

HUDDERSFIELD

COLLEGE OF TECHNOLOGY

Principal : W. E. SCOTT, M.B.E.

Department of Physics

Twelve lectures on Radioactive Materials and their Applications. Wednesday evenings 7-9 p.m., beginning September 24, 1958. Course fee 30s.

The course will deal with the detectors of radioactive radiations, applications in industry and research and with health precautions. A knowledge of elementary physics, but not of nuclear physics will be assumed.

Further details may be obtained from the Registrar.

H. GRAY,
Chief Education Officer.

CROYDON

TECHNICAL COLLEGE

Part-time day and evening courses are offered for the following qualifications :

Ordinary National Certificate in Applied Physics

Higher National Certificate in Applied Physics

Graduateship of The Institute of Physics

B.Sc. (General) New Regulations

Further particulars and information may be obtained from the Head of the Science Department, Croydon Technical College, Fairfield, Croydon.

ROYAL TECHNICAL COLLEGE, SALFORD

Principal : C. WHITWORTH, M.Sc., Ph.D., F.R.I.C., F.Inst.F.

DEPARTMENT OF PURE AND APPLIED PHYSICS

Head of Department : W. G. DARVELL, M.Sc., F.Inst.P.

Full-time	General B.Sc. (New Regulations). Sandwich Course in Applied Physics. Nuclear Energy Courses (Full-time for 6 weeks, commencing dates for 1958-59, September 1, November 10, February 16, April 6 and August 31).
Part-time Day and Evening	Special and General B.Sc. Higher National Certificate. Grad.Inst.P. (Physics I, II, III, More Advanced Physics, Electronics, X-rays, Nuclear Instruments.)
Evening	Postgraduate Courses. Autumn Term — Metal Physics. Spring Term — Microscopy for Biologists.

Complete details of these and other Courses may be obtained from the Head of Department.

R. RIBBLESDALE THORNTON, *Clerk to the Governors.*

COLLEGE OF TECHNOLOGY

GOSTA GREEN, BIRMINGHAM 4

DEPARTMENT OF PHYSICS

Session 1958-59

Full-time courses will be held in the following subjects :—
External B.Sc. degrees of the University of London
Applied Physics (leading to the Diploma in Technology) (Sandwich Course)
Reactor Power Technology
Ophthalmic Optics

Part-time day and evening courses will be held leading to :—
Graduateship of The Institute of Physics
Associateship of the College
External B.Sc. General and Special degree of the University of London
Higher National Certificate in Applied Physics

Evening Courses :—
Postgraduate Short Courses in
Transistors, Wave Guides and Centimetric Waves, Electronics, Vacuum Technique, Acoustics and Noise Measurement, X-rays and Ophthalmic Optics

The next session opens on September 29, 1958

Further particulars and forms of application for the full-time courses and details of other courses are given in the prospectus and may be obtained from the Head of Department of Physics.

College of Technology, Art and Commerce, Oxford

SCHOOL OF SCIENCE

Full-time courses for

The Graduateship Examination of The Institute of Physics and The Royal Institute of Chemistry
University of London External General B.Sc.
General Certificate of Education at Advanced Level

Part-time day and evening courses for

The Ordinary and Higher National Certificate in Applied Physics, Chemistry, Metallurgy and the Endorsed Certificate in Biology (Ordinary)
The Licentiateship Examination of The Institution of Metallurgists
The Graduateship Examination of The Institute of Physics and The Royal Institute of Chemistry

Full particulars from The Principal, College of Technology, Art and Commerce, Cowley Road, Oxford. Tel. No. Oxford 48393.

BRADFORD INSTITUTE OF TECHNOLOGY

Principal :
E. G. EDWARDS, B.Sc., Ph.D., F.R.I.C.

Head of Physics Department :
D. L. SMARE, M.Sc.(Tech.), Ph.D., F.Inst.P.

APPLIED PHYSICS

A four-year Sandwich course in Applied Physics will begin in October, 1958.

The course aims at providing intending industrial physicists with a broad basis of fundamental science together with a training in the application to industrial problems. Special subjects offered are, at present, X-ray diffraction and crystal structure, and Nuclear instruments and measurements.

Further details of the course may be obtained from the Head of the Physics Department.

SOUTH-EAST LONDON TECHNICAL COLLEGE

Lewisham Way, S.E.4

Courses in Applied Physics

Part-time courses leading to Graduateship of The Institute of Physics

Evening and part-time day courses for Higher National and Ordinary National Certificate in Applied Physics

Six months' full-time course in electronics

Two year, six months' "sandwich" course in telecommunications

Special evening courses on nuclear engineering, electronic switching, non-linear servo control systems, optical instrument design, high voltage engineering, advanced electrical circuit theory, vector analysis and electromagnetic theory.

Further details from the Head of the Department of Electrical Engineering and Applied Physics (1257)

Rotherham Education Committee

COLLEGE OF TECHNOLOGY

Commencing September. Courses leading to **Ordinary and Higher National Certificates in Applied Physics** and **Graduateship Examination of the Institute of Physics.**

High Vacuum Technology. This course covers the construction, operation and servicing of most forms of commercial vacuum pumps and gauges. It also includes leak detection, system design, vacuum deposition and techniques common to all vacuum applications.

Introduction to Spectroscopy. This course will cover the types and formation of spectra. Spectrographs—wavelength and quartz ; spectrographic analysis.

Electronics. This is an introductory course in electronics and covers the Graduateship Examination of the Institute of Physics.

Servo-mechanisms. This is an introductory course from graduate level giving the basic theory of automatic control systems.

Further details obtainable from the Registrar, College of Technology, Howard Street, Rotherham.

R. BLOOMER,
Director of Education.

NATIONAL COLLEGE OF RUBBER TECHNOLOGY

HOLLOWAY ROAD, LONDON, N.7.

Telephone : NORth 4231

Head : F. H. COTTON, Ph.D., M.Sc., F.R.I.C., F.I.R.I.

Physical Methods in High Polymer Research

A one-week residential course of lectures, demonstrations and practical work suitable for those desiring first-hand acquaintance with modern tools of research in the polymer field.

25 to 29 August, 1958, inclusive

Organizing Lecturers : N. H. Langton, Ph.D., M.Sc., A.M.Brit.I.R.E., A.Inst.P.
J. Glazer, Ph.D., B.Sc.
Associate Lecturer : M. Kaufman, B.Sc., F.R.I.C., A.P.I.

LECTURES AND PRACTICAL WORK

1. **Electron Microscopy :** examination of particles, shadowing, replica techniques for examination of surfaces. Cutting of thin sections and use of the ultramicrotome. Examination of particle dispersions in polymers.
2. **Infra-red Spectroscopy :** preparation of specimens, production of spectrograms. Interpretation of results.
3. **Ultrasonics :** ultrasonic degradation of high polymers in solution. Surface degradation of solid polymers by ultrasonic vibrations.

Accommodation on the course is limited. Early application is desirable.

Participants will be accommodated in Carleton Grange, the National College Hall of Residence, 45-47 Carleton Road, Tufnell Park, London, N.7, about one mile from the College.

Fees, including residence : United Kingdom students 11 Guineas
Overseas students 15 Guineas

Application forms may be obtained from the Head of the College.